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ABSTRACT

A ROLE-MODELING THEORY WAS APPLIED TO THE PROBLEM OF BIRTH-ORDER AND CONFORMITY TO A SAME-SEX PEER GROUP. SUBJECTS WERE MALE AND FEMALE COLLEGE STUDENTS FROM TWO-SIBLING FAMILIES. RESULTS SHOWED THAT HIGHEST CONFORMITY WAS FOUND FOR LATER-BORN FEMALES WITH A SAME-SEX SIBLING, AND LEAST FOR LATER-BORN MALES WITH A SAME-SEX SIBLING. AN INTERMEDIATE LEVEL OF CONFORMITY WAS EXHIBITED BY LATER-BORN SUBJECTS HAVING CROSS-SEX SIBLINGS. IN THE CASE OF FIRST-BORNS, NO DIFFERENCE IN CONFORMITY OCCURRED AS A FUNCTION OF SEX OF THEIR SIBLING. THE PATTERN OF RESULTS FOR CONFORMITY WAS CONGRUENT WITH PREDICTIONS MADE FROM ROLE-MODELING THEORY. (AUTHOR)

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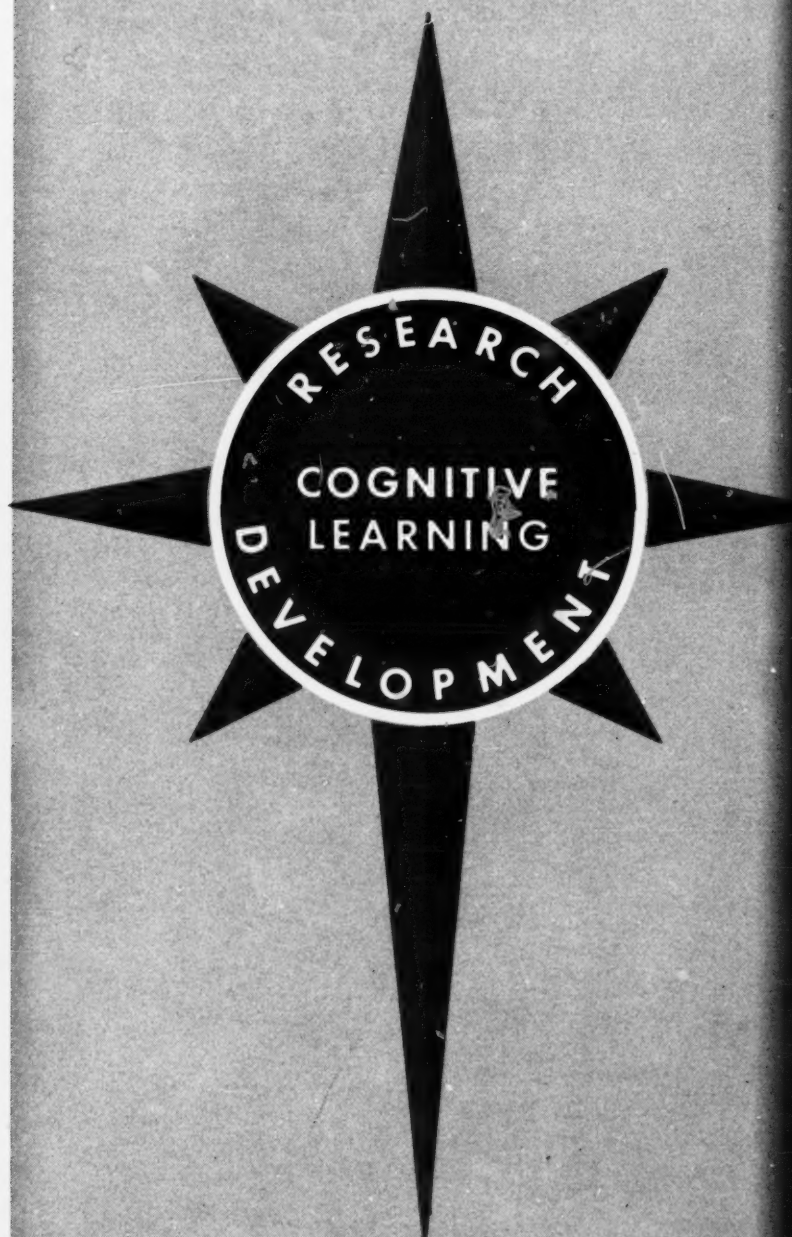
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ORDINAL POSITION AND CONFORMITY

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Report from the Project on Peer Group Pressures on Learning

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Wisconsin Research and Development
Center for Cognitive Learning
The University of Wisconsin
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This technical report is from the Peer Group Pressures on Learning Project in Program 1. General objectives of the Program are to generate new knowledge about concept learning and cognitive skills, to synthesize existing knowledge, and to develop educational materials suggested by the prior activities. Contributing to these program objectives, this project is directed toward identification of the effects of peer group pressures on the utilization of concepts already learned and on the learning of new concepts.

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ABSTRACT

A role-modeling theory was applied to the problem of birth-order and conformity to a same-sex peer group. Subjects were male and female college students from two-sibling families. Results showed that highest conformity was found for later-born females with a same-sex sibling, and least for later-born males with a same-sex sibling. An intermediate level of conformity was exhibited by later-born subjects having cross-sex siblings. In the case of first-borns, no difference in conformity occurred as a function of sex of their sibling. The pattern of results for conformity was congruent with predictions made from role-modeling theory.

INTRODUCTION

A considerable amount of recent research has demonstrated that conformity varies as a function of ordinal position (Arrowood & Amoroso, 1965; Becker & Carroll, 1962; Becker, Lerner, & Carroll, 1964; Carrigan & Julian, 1966; Moore, 1964; Sampson, 1962; Staples & Walters, 1961). Much of the research on birth-order suffers, however, from serious methodological shortcomings. With few exceptions, birth-order studies have compared first-born and only-born Ss with later-borns. Important variables such as family size, sex of sibling, and age spread between siblings are thus confounded with ordinal position and sex of S. To obtain meaningful results from research on birth-order, it is imperative to control these variables. In spite of methodological limitations, empirical work on ordinal position has far exceeded theoretical accomplishments in the field. Theoretical attempts have unfortunately often been *ad hoc* and extremely restricted in scope. A more comprehensive and, hopefully, satisfactory conception is tested in the present study.

The major theoretical account of birth-order differences has been advanced by Schachter (1959), who extended social/comparison theory to explain affiliation under stress. Schachter assumes, first, that adults are more effective sources of anxiety reduction for first-born than for later-born children and, second, that later-born children have anxiety-provoking individuals (*viz.*, siblings) in their environment. Thus, first-born children are likely to have had anxiety alleviated by social means, *i.e.*, by adults. It would follow that first-borns should affiliate more strongly than later-borns, as Schachter's results showed.

It would seem reasonable to view conformity as a form of affiliation, and to extend the affiliation findings to the area of social influence. Schachter did attempt such an

extension of the explanation of ordinal position differences in his interpretation of the results of Ehrlich's (1958) thesis. Ehrlich found greater conformity for first-borns than for later-borns, which Schachter cited as support for the affiliation explanation of birth-order differences in response to social pressure.

A close examination of Ehrlich's (1958) data casts doubt on the adequacy of affiliation theory in explaining the differential conformity of first- and later-borns. Two conditions of responding to conformity pressure were used in Ehrlich's study—public and private. The private response condition showed a significant difference between first- and later-borns. Surprisingly, results showed no difference in level of conformity for first-borns between the private and public conditions; yet conformity was greater for later-borns in the public condition than in the private. According to Schachter's explanation, the public condition should certainly have resulted in greater conformity for first-borns since their peers would be aware of their responses. A simple explanation can be offered for Ehrlich's (1958) findings. Two sources of conformity pressure were obviously present in the situation: The *E* and the S's peers. We suggest that first-borns are more oriented towards adults than later-borns, while later-borns are more oriented towards peers. The assumption will be discussed more fully later in conjunction with a role theory of birth-order and social influence. Consistent with this assumption is Staples and Walters' (1961) finding that first-borns conformed significantly more to *E* than did later-borns.

As an alternative to Schachter's account of ordinal position and conformity, we offer a role theory (Sarbin & Allen, 1968) explanation that seems more consistent with available

data. Our first assumption is that the child selects a member of the family older than himself to use as a standard of comparison. The first-born child will be likely to select a parent as a model, simply because other siblings are not available. Adult models should therefore be more relevant for the first-born than for the later-born, a prediction supported by data (Murdock, 1966). In contrast to the first-born, the later-born child is more likely to employ an elder sibling as a behavioral referent than a parent. If the elder sibling is of the same sex we assume that the child will model his sex-role behavior after the elder sibling. But if the sibling is of the opposite sex we assume the child will contrast his sex-role behavior against the sibling. According to these assumptions, then, the elder sibling should exert more influence on the behavior and personality of a younger child than the young child exerts on the elder.

Brim's (1958) analysis of masculine-feminine characteristics of five- and six-year olds as a function of ordinal position and sex of sibling is relevant to the assumptions made by role modeling theory. He found that young children from two-member sibships were rated as more feminine if they had an elder sister, but more masculine if they had an elder brother. As would be predicted by role-modeling theory, the most feminine category was later-born females having an elder sister, and the most masculine category was later-born males having an elder brother.

A second assumption of role-modeling theory is that the more closely a given situation reproduces the family situation in which the individual acquired his sex-role behavior, the more appropriate the sex-role behavior will be. This assumption is important when considering the source of influence—peer or adult—in a social situation. In terms of peer influence, sex-role appropriate behavior should be greater for later-born than for first-born Ss, since the influence source (peers) more closely approximates the role model of later-born Ss. In addition, sex-role appropriate behavior should be greatest for later-borns if sex of peer influence is same as sex of the S's elder sibling.

To recapitulate, the two basic assumptions of role-modeling theory are that:
(1) peers are a more salient influence source for later-borns, while adults are a more salient influence source for first-borns;
(2) appropriate sex-role behavior will be

strongest when a situation closely resembles the situation in which the individual acquired his sex-role behavior.

Role-modeling theory can easily be applied to conformity by using the concept of sex-role expectations. In our society, conformity is viewed as appropriate sex-role behavior for females, while nonconformity (or independence) is more appropriate sex-role behavior for males.

In the present study, the source of influence is a group of same-sex peers. This influence situation most closely resembles the role-learning situation for later-borns than for first-borns. And according to our theory, peer influence is more salient for later-borns than for first-borns. Therefore, appropriate sex-role behavior should be more likely for later-born Ss (who had an elder sibling as model) than for first-borns (who had an adult as model). We predict that later-born females will conform more than first-borns, while later-born males will conform less than first-borns. In other words, sex of subject is predicted to produce differential conformity for later-borns, but not for first-borns.

Difference between first-borns and later-borns should be accentuated when the later-born has a same-sex sibling. That is, a later-born female having an older sister should conform much more than a first-born female with a younger sister. Likewise, a later-born male having an older brother should be much more independent than a first-born male with a younger brother. The presence of cross-sex siblings for later-borns would have an effect counter to that imposed by sex-role expectations; therefore, conformity differences predicted for persons having same-sex siblings will be attenuated in the case of cross-sex siblings.

The predictions mentioned above can be summarized by the following pattern of expected results: (a) little difference in conformity will result as a function of sex of subject and sex of sibling for first-borns; (b) greatest conformity will occur for later-born females having an elder sister; (c) least conformity will exist for later-born males having an elder brother; and (d) an intermediate amount of conformity will occur for later-born Ss with an elder cross-sex sibling (i.e., for girls with an elder brother and for boys with an elder sister).

II METHOD

SUBJECTS

Seventy-three male and female students from introductory psychology courses were used as Ss. All Ss were members of two-sibling families, with the restriction that the sibling be within four years of age of S. Five Ss of the same sex were always tested together in an experimental session.

DESIGN

Three variables were used in the 2 x 2 x 2 design: sex of subject, sex of sibling, and ordinal position. The combination of two levels of each of these three factors resulted in the eight ordinal position categories possible in a two-sibling family. The number of subjects in each condition was approximately equal.

APPARATUS

A Crutchfield-kind of apparatus was used to measure conformity (Crutchfield, 1955). The apparatus consists of five booths, a master control panel, a slide projector, and a screen. The five booths have identical panels containing nine columns of five green lights and a switch below each column. The response switches used for answering are numbered from 1 to 9, and are also labeled with a nine-point scale ranging from "Very Strongly Agree" to "Very Strongly Disagree." The E's control panel is located in an adjoining room, from where the E presents the fictitious answers of the group and records the Ss' responses. During the experiment, E presented the question for each slide by an intercom system.

By the use of instructions and several

practice trials, Ss were led to believe that lights in their booths showed responses of other Ss. Presumably all five Ss answered in different positions. During practice trials the apparatus actually did operate as described by E in the instructions; but during the experimental trials, the apparatus was switched to an alternate circuit and in reality the lights on Ss' boards were controlled by E. Moreover, throughout the experimental series of trials, all five Ss actually answered last (fifth), with fictitious responses being presented in the first four response positions. (Subjects were carefully debriefed after the experiment, of course.)

STIMULUS ITEMS

The task consisted of Ss making judgments on 60 items: 20 visual perceptual items (e.g., estimating which of nine lines is the same length as a comparison line); 20 information items (e.g., "How far is it from New York to San Francisco?"); and 20 opinion items (e.g., "I think most people get too much education.") Subjects were instructed to answer each item as accurately as possible. Items were counterbalanced through the series according to type, and stimuli were projected on the screen in front of the room.

GROUP PRESSURE

Eight of the 20 items of each type received group pressure. On critical items the S, answering in the fifth position, observed the incorrect or unpopular simulated responses presumably made by the other four persons. Group pressure responses were located at a point beyond which fewer than 5% of a standardization sample answered privately. The

remaining 12 items of each of the three types were filler items on which responses of the group actually represented correct or popular answers. Critical and filler items were counterbalanced across the series of 60 items.

METHOD OF ANALYSIS

A conformity score was derived for information and opinion items by calculating

the algebraic difference between a pre-test questionnaire and the response given in the group pressure situation. Critical items were embedded in a test battery administered to all introductory psychology students at the beginning of the semester. The conformity score for visual items was calculated by determining the difference between the Ss response under group pressure and the veridical response.

III RESULTS

A preliminary analysis of variance indicated that type of item did not interact with any of the birth-order factors; therefore, data were combined across the three types of items to simplify presentation of further analyses.

Results of the analysis of variance are shown in Table 1. The main effect for sex

Table 1. Analysis of variance on combined conformity scores

Source	df	MS	F
Sex of Subject (A)	1	434.00	8.97**
Ordinal Position (B)	1	3.00	--
Sex of Sibling (C)	1	88.20	1.82
A X B	1	681.40	14.08**
A X C	1	144.70	2.99
B X C	1	254.30	5.26*
A X B X C	1	109.40	2.26
S(ABC)	65	48.39	

* $p < .05$

** $p < .01$

indicated that females conformed significantly more than males, a result commonly found in the social influence literature (Allen & Crutchfield, 1963; Beloff, 1958). The two significant interactions from the analysis of variance are of relevance to theoretical expectations of the present study. We predicted that there would be little sex difference in conformity for first-born subjects, but a greater difference between male and female later-borns. The significant ordinal position by sex of subject interaction confirmed this prediction. Mean conformity for first-borns did not differ significantly for males and females; however, as predicted, in the case of later-borns' conformity, scores did differ according to sex of subject, with females conforming significantly more than males (26.6 and

16.4 respectively; $t = 4.38$, $p < .01$). These data, then, are consistent with the expectation that later-borns would display greater sex-role appropriate behavior (i.e., conformity for females and independence for males) than first-borns in an influence situation (same-sex peers): more salient for later-borns than first-borns.

It was also expected that later-borns with an elder female sibling would conform more than later-borns with an elder male sibling. The significant ordinal position by sex of sibling interaction confirmed this prediction: sex of sibling had a differential effect on conformity for later-borns, but not for first-borns. Mean conformity for later-born subjects having an older sister was significantly greater than conformity for later-borns having an older brother (23.8 and 18.7 respectively; $t = 2.20$, $p < .05$).

Other predictions were made concerning the relation between conformity and sex of the elder sibling of later-born subjects. Because the same general direction of results were expected for same-sex and cross-sex siblings, the predicted pattern of results is not revealed by any of the interaction terms from the analysis of variance. Instead, specific comparisons must be made as shown in Figures 1 and 2. It was predicted that later-born females with a sister would conform more than first-born females with a sister. As shown in Figure 1, data were consistent with this prediction ($t = 4.03$, $p < .001$). It was similarly predicted that later-born males with a brother would conform less than first-born males with a brother. Data in Figure 1 also supported this prediction ($t = 2.26$, $p < .05$).

It was also expected that the pattern of conformity for later-borns with cross-sex siblings would be similar to that found for later-borns with same-sex siblings. But for subjects with cross-sex siblings the predicted

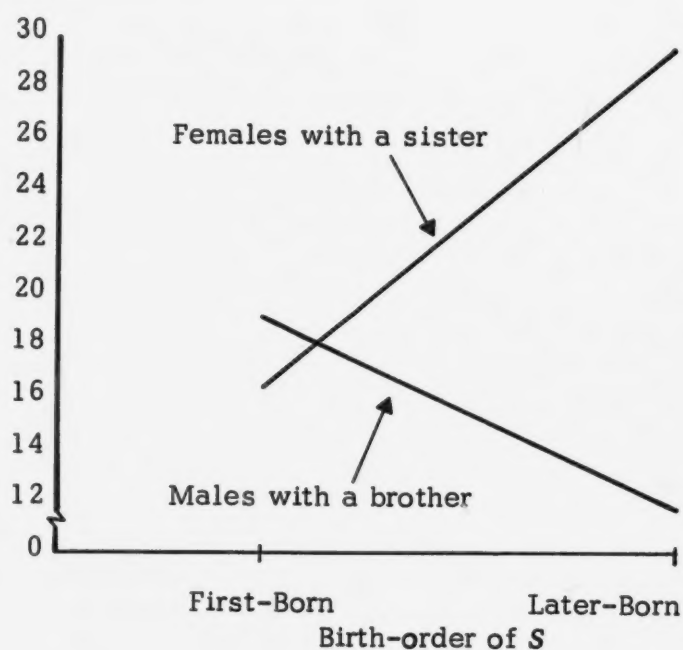


Figure 1

conformity difference as a function of ordinal position should be somewhat weaker. Thus, conformity for later-borns with cross-sex siblings should be intermediate between the more extreme levels of conformity and non-conformity exhibited by later-born males and females with same-sex siblings. Results in Figure 2 indicate that difference in conformity between males and females who had a cross-sex elder sibling was in the same direction as found in Figure 1. In contrast to comparisons for same-sex siblings, difference in conformity as a function of ordinal position

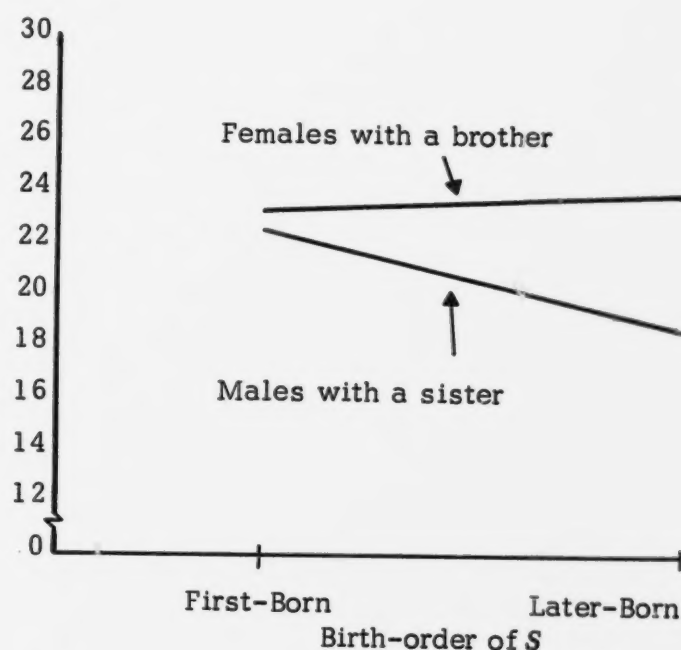


Figure 2

did not reach statistical significance for either males or females in the case of subjects with cross-sex siblings.

In summary, the general pattern of predicted results was found: First, no difference in level of conformity occurred for first-borns as a function of sex of their sibling. Secondly, greatest conformity occurred for later-born females having a same-sex sibling and least for later-born males having a same-sex sibling. And finally, an intermediate level of conformity occurred for later-born subjects with cross-sex siblings.

IV DISCUSSION

The present study applied a role-modeling theory to the problem of ordinal position differences in conformity. Role-modeling theory assumes that during the period of childhood socialization first-borns are more likely to have used adults (parents) as models, and that later-borns are more likely to have used their elder siblings as models. The theory further assumes that the probability of elicitation of appropriate sex-role behavior is related to the similarity between the structure of a situation and the family situation in which the individual acquired his sex-role behavior. Predictions concerning relative level of conformity for different ordinal positions can be derived from role-modeling theory if one reasonable assumption is made: that conformity is appropriate sex-role behavior for females and nonconformity is appropriate sex-role behavior for males.

Several specific predictions were made in this study. We predicted greatest amount of conformity for later-born females who had an elder sister, and least conformity for later-born males who had an elder brother. These predictions were based on the role-modeling situation for these categories. A younger female with an elder sister should possess strong feminine characteristics, such as compliance and cooperation, as a result of having an elder sister whose behavior could be modeled. Similarly, boys with an elder brother have had a model for the male sex-role; hence, they should have acquired strong masculine sex-role characteristics. And for the masculine sex-role, conforming behavior is negatively evaluated. Later-born subjects having cross-sex siblings were predicted to exhibit a pattern of conformity similar to that of later-borns with same-sex siblings (but with less pronounced difference in conformity as a function of sex of sibling). Conformity for later-borns having cross-sex siblings was therefore expected to fall at an intermediate level, relative to conformity for later-born males and females with

same-sex siblings. These predictions were supported by results of the present study.

The further prediction that sex of subject and sex of sibling would make little difference in level of conformity for first-borns was likewise supported by data from the present experiment. In other words, results showed that first-born individuals were not differentially affected by sex of their younger sibling, though later-borns were differentially affected by sex of their elder sibling.

It should be stressed that role-modeling theory conceives of social influence as being situationally determined. Individuals from several birth-order categories will conform when situational variables appropriate to their particular backgrounds are present. We do not subscribe to the simplistic view that a consistent and invariant pattern of conformity behavior will always be exhibited as a function of a specified ordinal position. In the present experiment, it will be recalled, conformity pressure emanated from an influence source more salient for later-borns than for first-borns, viz., a group of peers of the same sex as the subject. Role-modeling theory assumes that for first-borns, peers are a less important and salient source of influence than adults. Accordingly, if the influence situation involved an adult, first-borns should be more affected than later-borns. Some experimental evidence does suggest that first-borns are more influenced by adults than are later-borns. First-borns have been found to conform more than later-borns when the influence was mediated by a report from an adult experimenter (Carrigan & Julian, 1966; Sampson & Hancock, 1967). Yet, a caveat must be entered regarding this point. The present study has demonstrated that any general conclusion about level of conformity for later-borns is likely to be erroneous; sex of the later-born's elder sibling makes an appreciable difference in amount of conformity and clearly must be taken into consideration.

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